AMENDED CLAIMS

[received by the International Bureau on 16 March 2005 (16.03.05); original claims 1-30 replaced by amended claims 1-32]

1. A compound of Formula (I)

$$A \xrightarrow{R} \begin{pmatrix} R^1 \\ R^2 \\ N \\ G \end{pmatrix} \begin{pmatrix} R^3 \\ N \\ G \end{pmatrix} \begin{pmatrix} R \\ N \end{pmatrix} \begin{pmatrix} R \\ D \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \begin{pmatrix} R \\ M \end{pmatrix} \end{pmatrix} \begin{pmatrix} R$$

or a pharmaceutically acceptable salt thereof, wherein:

R¹ is hydrogen;

CN;

halogen; or

C₁₋₄ alkyl, optionally substituted with one or more fluoro:

R² is hydrogen;

CN;

halogen; or

C₁₋₆ alkyl substituted with one or more fluoro;

R³ is hydrogen;

C₁₋₄ alkyl; or

C₃₋₆ cycloalkyl;

A is A¹, wherein A¹ is selected from the group consisting of:

phenyl;

naphthyl;

heterocycle containing up to 4 heteroatoms, which are the same or different and

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selected from the group consisting of -O-, -S-, -S(O)-, -S(O<sub>2</sub>)-, -N=, -N(O)= and -N(R<sup>4</sup>)-; and
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heterobicycles containing up to 6 heteroatoms, which are the same or different

and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(\mathbb{R}^4)-;

wherein A¹ is optionally substituted with one or independently from each other more of

 A^2 ;

A³;

halogen;

CN;

-N(R5R6);

-OH;

=O, where the ring is at least partially saturated;

C3-8 cycloalkyl;

-COOR7; or

-CONR⁸R⁹;

-S(O)2NR82R98

and wherein R^4 , R^5 , R^6 are independently selected from the group consisting of R^{7a} , $-C(O)-R^{7a}$, $-C(O)O-R^{7a}$, $-C(O)NR^{7a}R^{7b}$, $-S(O)_2NR^{7a}R^{7b}$, and $S(O)_2-R^{7a}$;

and wherein R^7 , R^{7a} , R^{7b} , R^8 , R^8 , R^8 , R^9 , R^{9a} are independently hydrogen or C_{1-4} alkyl, wherein each C_{1-4} alkyl is optionally substituted with one or more substituents independently selected from the group consisting of -COOH; -OH; -NH₂; -NH-C₁₋₄ alkyl; -N(C₁₋₄ alkyl)₂; and C₃₋₆ cycloalkyl;

Optionally R4 is a bond to directly attach A to B;

A² is selected from the group consisting of A⁴, -O-A⁴ and -N(R¹⁰)-A⁴,

wherein A^4 is phenyl or a heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(R¹¹)-; wherein A^4 is optionally substituted with one or independently from each other more of

fluoro;

chloro;

-N(R12R13)

 C_{1-4} alkyl or -O- C_{1-4} alkyl, both optionally substituted with one or independently from each other more of fluoro or -N($R^{14}R^{15}$);

and wherein R¹⁰, R¹², R¹³, R¹⁴, R¹⁵ are independently hydrogen or C₁₋₄ alkyl; and wherein R¹¹ is selected from the group consisting of hydrogen, C₁₋₄ alkyl and -C(O)-C₁₋₄ alkyl;

 A^3 is selected from the group consisting of C_{1-6} alkyl, -O- C_{1-6} alkyl and -N(R^{16})- C_{1-6} alkyl, wherein the C_{1-6} alkyl group is optionally substituted with one or independently from each other more of

fluoro; -N(R¹⁷R¹⁸); A⁵;

and/or A³ is optionally interrupted with one or more oxygen; and wherein R¹⁶, R¹⁷, R¹⁸ are independently hydrogen or C₁₋₄alkyl;

 A^5 is phenyl or a heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(R¹⁹)-; wherein A^5 is optionally substituted with one or independently from each other more of

fluoro;

chloro;

 $-N(R^{20}R^{21})$

C₁₋₄ alkyl or -O-C₁₋₄ alkyl, both optionally substituted with one or independently from each other more of fluoro or -N(R²²R²³);

and wherein R^{19} is selected from the group consisting of hydrogen, C_{1-4} alkyland -C(O)-C₁₋₄ alkyl;

and wherein R²⁰, R²¹, R²², R²³ are independently hydrogen or C₁₋₄ alkyl;

B is selected from the group consisting of -Y-Z-; -Y-Z-C(O)-; -Y-Z-O-C(O)-; -Y-Z-S(O)_z-; and -Y-Z-NH-C(O)- wherein

Y is a bond, -O-, -S-, -N(R^{24})-, -N(R^{26})-C(O)-, -C(O)-N(R^{26})-, or -C(O)-; Z is C₁₋₆ alkyl,

optionally interrupted with oxygen, sulfur or -N(R²⁷)and/or optionally substituted with one or independently from each other
more of

halogen;

chloro;

C₁₋₄ alkyl; or

-O-C1-4 alkyl;

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CN;
                                             C<sub>3-5</sub> cycloalkyl;
                                             -COOR<sup>28</sup>;
                                             -CON(R<sup>29</sup>R<sup>30</sup>)
                                 and/or optionally one chain carbon forms part of a C<sub>3-6</sub> cycloalkyl;
                      and wherein R<sup>24</sup>, R<sup>25</sup>, R<sup>26</sup>, R<sup>27</sup>, R<sup>28</sup>, R<sup>29</sup>, R<sup>30</sup> are independently
                                 hydrogen; or
                                 C<sub>1-4</sub> alkyl, optionally substituted with -COOR<sup>31</sup> or -CON(R<sup>32</sup>R<sup>33</sup>)
                                            wherein R<sup>31</sup>, R<sup>32</sup>, R<sup>33</sup> are independently hydrogen or
                                            C<sub>1-4</sub> alkyl;
X is =C(R^{34})- or =N_{-}, wherein R^{34} is
           hydrogen;
           C<sub>1-6</sub> alkyl, optionally substituted with one or more fluoro; or
           -S(O)<sub>2</sub>R<sup>35</sup>, wherein R<sup>35</sup> is selected from the group consisting of X<sup>1</sup>, C<sub>1-5</sub> alkyl,
                      and -C<sub>1-8</sub> alkyl-X<sup>1</sup>; wherein R<sup>35</sup> is optionally substituted with one or
                      independently from each other more of
                      fluoro;
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 X^1 is phenyl or heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(R³⁶)-; and wherein R³⁶ is selected from the group consisting of hydrogen, C₁₋₄ alkyl and -C(O)-C₁₋₄ alkyl;

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G is -CH(R<sup>37</sup>)-C(R<sup>38</sup>R<sup>39</sup>)-;
-CH(R<sup>37</sup>)-C(R<sup>38</sup>R<sup>39</sup>)-C(R<sup>40</sup>R<sup>41</sup>)-;
wherein R<sup>37</sup>, R<sup>38</sup>, R<sup>39</sup>, R<sup>40</sup>, R<sup>41</sup> are independently
hydrogen;
C<sub>1-4</sub> alkyl, optionally substituted with one or more fluoro;
C<sub>3-6</sub> cycloalkyl, optionally substituted with one or more fluoro;
or R<sup>38</sup> and R<sup>39</sup> or R<sup>40</sup> and R<sup>41</sup> form together C<sub>3-6</sub> cycloalkyl, optionally
substituted with one or more fluoro, -OH, C<sub>1-4</sub> alkyl;
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139

or R^{37} and R^{38} or R^{38} and R^{40} form together C_{3-6} cycloalkyl, optionally substituted with one or more fluoro, -OH, C_{1-4} alkyl;

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D is
        C<sub>1-6</sub> alkyl,
        optionally interrupted with oxygen, sulfur or -N(R42)-
        and/or optionally substituted with halogen, CN, C36 cycloalkyl;
       and/or optionally one chain carbon or two vicinal carbons form part of a C3-6
       cycloalkyl, wherein R42 is selected from the group consisting of hydrogen, C1-4 alkyl,
       C<sub>3-5</sub> caycloalkyl and -C(O)-C<sub>1-4</sub> alkyl;
       E<sup>1</sup>, wherein E<sup>1</sup> is selected from the group consisting of
E is
       phenyl;
       naphthyl;
       heterocycle containing up to 4 heteroatoms, which are the same or different and
                selected from the group consisting of -O-, -S-, -S(O)-, -S(O<sub>2</sub>)-, -N=,
               -N(O)= and -N(R^{43})-; and
       heterobicycle containing up to 6 heteroatoms, which are the same or different
               and selected from the group consisting of -O-, -S-, -S(O)-, -S(O2)-, -N=,
               -N(O)= and -N(R^{44})-;
       wherein E1 is optionally substituted with one or independently from each other more
       of
               E2;
               E3;
               halogen;
               CN;
               -N(R^{45}R^{46});
               -OH;
               =O, where the ring is at least partially saturated;
               C3-6 cycloalkyl;
               -COOR<sup>47</sup>; or
               -CONR48R49;
               -S(O)2NR488R499:
       and wherein R<sup>43</sup>, R<sup>44</sup>, R<sup>45</sup>, R<sup>46</sup> are independently selected from the group consisting of
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C₁₋₄ alkyl optionally substituted with -OH;

hydrogen;

and -C(O)-C₁₋₄ alkyl optionally substituted with -OH; and wherein R^{47} , R^{48} , R^{48} , R^{49} , R^{49} are independently hydrogen or C₁₋₄ alkyl, optionally substituted with -OH;

E2 is selected from the group consisting of E4, -C(O)-E4, -O-E4 and -N(R50)-E4,

wherein E^4 is phenyl or heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of $-O_7$, $-S_7$, $-S(O)_7$, $-S(O_2)_7$, -N=, -N(O)= and $-N(R^{51})_7$; wherein E^4 is optionally substituted with one or independently from each other more of

fluoro;

chloro;

cyano;

=O, where the ring is at least partially saturated;

 $-N(R^{52}R^{53});$

C₁₋₄ alkyl; or

-O-C1-4 alkyl;

and wherein R^{50} , R^{52} , R^{53} are independently hydrogen or C_{1-4} alkyl, optionally substituted with -OH;

and wherein R⁵¹ is selected from the group consisting of

hydrogen;

C1-4 alkyl, optionally substituted with -OH; and

-C(O)-C₁₋₄ alkyl, optionally substituted with -OH;

 E^3 is selected from the group consisting of C_{1-6} alkyl, -O- C_{1-6} alkyl; -N(R^{54})- C_{1-6} alkyl, wherein E^3 is optionally substituted with one or independently from each other more of

fluoro;

-N(R⁵⁵R⁵⁶);

E⁵;

and/or E³ is optionally interrupted with one or more oxygen;

and wherein R^{54} , R^{55} , R^{56} are independently hydrogen or C_{1-4} alkyl, optionally substituted with -OH;

 E^5 is phenyl or heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(R⁵⁷)-; wherein E^5 is optionally substituted with one or independently from each other more of

fluoro;

chloro;

cyano;

=O, where the ring is at least partially saturated;

-N(R⁵⁸R⁵⁹);

C₁₋₄ alkyl or

-O-C₁₋₄ alkyl;

and wherein R⁵⁷ is independently selected from the group consisting of hydrogen;

C₁₋₄ alkyl, optionally substituted with -OH; and

-C(O)-C₁₋₄ alkyl, optionally substituted with -OH;

and wherein R⁵⁸, R⁵⁹ are independently hydrogen or C₁₋₄ alkyl, optionally substituted with -OH.

2. A compound of Formula (I)

$$A \xrightarrow{B} N \xrightarrow{R^2} R^3$$

$$A \xrightarrow{B} N \xrightarrow{D} E$$

$$(1)$$

or a pharmaceutically acceptable sait thereof, wherein:

R¹ is hydrogen;

CN;

halogen; or

C₁₋₄ alkyl, optionally substituted with one or more fluoro;

R² is hydrogen:

halogen;

CN;

C₁₋₆ alkyl, optionally substituted with one or more fluoro;

PCT/EP2004/011409

142

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C3-5 cycloalkyl; or
        O-C<sub>1-4</sub> alkyl;
R<sup>3</sup> is
       hydrogen;
       C1-4 alkyl; or
        C3-6 cycloalkyl;
       A<sup>1</sup>, wherein A<sup>1</sup> is selected from the group consisting of:
A is
       phenyl;
       naphthyl;
       heterocycle containing up to 4 heteroatoms, which are the same or different and
                selected from the group consisting of -O_-, -S_-, -S(O)_-, -S(O_2)_-, -N=_1
                -N(O)= and -N(R⁴)-; and
       heterobicycles containing up to 6 heteroatoms, which are the same or different
                and selected from the group consisting of -O-, -S-, -S(O)-, -S(O2)-, -N=,
                -N(O)= and -N(R4)-;
                wherein A1 is optionally substituted with one or independently from each other
                more of
                A^2;
                A3;
                halogen;
                CN;
                -N(R5R6);
                -OH;
                =O, where the ring is at least partially saturated;
                C<sub>3-6</sub> cycloalkyl;
                -COOR7; or
                -CONR<sup>8</sup>R<sup>9</sup>;
               -S(O)2NR88R88
       and wherein R4, R5, R6 are independently selected from the group consisting of R75,
       -C(O)-R<sup>73</sup>, -C(O)O-R<sup>78</sup>, -C(O)NR<sup>7a</sup>R<sup>7b</sup>, -S(O)₂NR<sup>7a</sup>R<sup>7b</sup>, and S(O)₂-R<sup>7a</sup>;
       and wherein R7, R7a, R7b, R8, R8a, R9, R9a are independently hydrogen or C1-4 alkyl,
       wherein each C<sub>1-4</sub> alkyl is optionally substituted with one or more substituents
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-NH-C₁₋₄ alkyl; -N(C₁₋₄ alkyl)₂; and C₃₋₅ cycloalkyl;

independently selected from the group consisting of -COOH; -OH; -NH2;

Optionally R4 is a bond to directly attach A to B;

A² is selected from the group consisting of A⁴, -O-A⁴ and -N(R¹⁰)-A⁴,

wherein A^4 is phenyl or a heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(R¹¹)-; wherein A^4 is optionally substituted with one or independently from each other more of

fluoro;

chloro;

-N(R¹²R¹³)

C₁₋₄ alkyl or -O-C₁₋₄ alkyl, both optionally substituted with one or independently from each other more of fluoro or -N(R¹⁴R¹⁵);

and wherein R¹⁰, R¹², R¹³, R¹⁴, R¹⁵ are independently hydrogen or C₁₋₄ alkyl; and wherein R¹¹ is selected from the group consisting of hydrogen, C₁₋₄ alkyl and -C(O)-C₁₋₄ alkyl;

 A^3 is selected from the group consisting of C_{1-6} alkyl, $-O-C_{1-6}$ alkyl and $-N(R^{16})-C_{1-6}$ alkyl, wherein the C_{1-6} alkyl group is optionally substituted with one or independently from each other more of

fluoro;

-N(R17R18);

A^s;

. · and/or A³ Is optionally interrupted with one or more oxygen;

and wherein R¹⁸, R¹⁷, R¹⁸ are independently hydrogen or C₁₋₄alkyl;

 A^5 is phenyl or a heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(R¹⁹)-; wherein A^5 is optionally substituted with one or independently from each other more of

fluoro;

chloro;

-N(R20R21)

C₁₋₄ alkyl or -O-C₁₋₄ alkyl, both optionally substituted with one or independently from each other more of fluoro or -N(R²²R²³);

and wherein R¹⁹ is selected from the group consisting of hydrogen, C₁₋₄ alkyl

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and -C(O)-C1-4 alkyl;
         and wherein R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup>, R<sup>23</sup> are independently hydrogen or C<sub>1-4</sub> alkyl;
        selected from the group consisting of -Y-Z-; -Y-Z-C(O)-; -Y-Z-O-C(O)-;
B is
         -Y-Z-S(O)2-; and -Y-Z-NH-C(O)- wherein
                  Y is a bond, -O-, -S-, -N(R24)-, -N(R25)-C(O)-, -C(O)-N(R26)-, or -C(O)-;
                 Z is C<sub>1-6</sub> alkyl,
                           optionally interrupted with oxygen, sulfur or -N(R27)-
                           and/or optionally substituted with one or independently from each other
                           more of
                                    halogen;
                                    CN;
                                   C<sub>3-5</sub> cycloalkyl;
                                    -COOR<sup>28</sup>;
                                    .-CON(R29R30)
                           and/or optionally one chain carbon forms part of a C3-6 cycloalkyl;
                 and wherein R<sup>24</sup>, R<sup>25</sup>, R<sup>26</sup>, R<sup>27</sup>, R<sup>28</sup>, R<sup>29</sup>, R<sup>30</sup> are independently
                           hydrogen; or
                           C<sub>1-4</sub> alkyl, optionally substituted with -COOR<sup>31</sup> or -CON(R<sup>32</sup>R<sup>33</sup>)
                                  wherein R<sup>31</sup>, R<sup>32</sup>, R<sup>33</sup> are independently hydrogen or
                                    C14 alkyl;
X is =C(R^{34})- or =N-, wherein R^{34} is
        hydrogen;
        C<sub>1-6</sub> alkyl, optionally substituted with one or more fluoro; or
        -S(O)₂R<sup>35</sup>, wherein R<sup>35</sup> is selected from the group consisting of X<sup>1</sup>, C<sub>1-6</sub> alkyl,
              and -C<sub>1-6</sub> alkyl-X<sup>1</sup>; wherein R<sup>25</sup> is optionally substituted with one or
                independently from each other more of
                  fluoro;
              chloro;
              C<sub>1-4</sub> alkyl; or
                -O-C<sub>1-4</sub> alkyl;
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 X^1 is phenyl or heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(R³⁸)-;

and wherein R^{36} is selected from the group consisting of hydrogen, C_{1-4} alkyl and $-C(O)-C_{1-4}$ alkyl;

G is -CH(R³⁷)-C(R³⁸R³⁹)-;
-CH(R³⁷)-C(R³⁸R³⁹)-C(R⁴⁰R⁴¹)-;
wherein R³⁷, R³⁸, R³⁹, R⁴⁰, R⁴¹ are independently
hydrogen;

C₁₋₄ alkyl, optionally substituted with one or more fluoro;

C₃₋₆ cycloalkyl, optionally substituted with one or more fluoro;
or R³⁸ and R³⁹ or R⁴⁰ and R⁴¹ form together C₃₋₆ cycloalkyl, optionally
substituted with one or more fluoro, -OH, C₁₋₄ alkyl;
or R³⁷ and R³⁸ or R³⁸ and R⁴⁰ form together C₃₋₆ cycloalkyl, optionally
substituted with one or more fluoro, -OH, C₁₋₄ alkyl;

optionally interrupted with oxygen, sulfur or -N(R⁴²)and/or optionally substituted with halogen, CN, C_{3.6} cycloalkyl;
and/or optionally one chain carbon or two vicinal carbons form part of a C_{3.6}
cycloalkyl, wherein R⁴² is selected from the group consisting of hydrogen, C_{1.4} alkyl,
C_{3.6} caycloalkyl and -C(O)-C_{1.4} alkyl;

E is E¹, wherein E¹ is selected from the group consisting of naphthyl;

non-aromatic heterocycle containing up to 4 heteroatoms, which are the same or different and

selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, \div N=, -N(O)= and -N(R⁴³)-; and

heterobicycle containing up to 6 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(\mathbb{R}^{44})-;

wherein E¹ is optionally substituted with one or independently from each other more of

E2;

E3;

halogen;

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CN;
               -N(R45R46);
                -OH;
                 =O, where the ring is at least partially saturated;
                 C<sub>3.6</sub> cycloalkyl;
               ·-COOR47; or
                -CONR 4BR49:
                -$(0)2NR48aR49a;
        and wherein R<sup>43</sup>, R<sup>44</sup>, R<sup>45</sup>, R<sup>46</sup> are independently selected from the group consisting of
                hydrogen;
                C<sub>1-4</sub> alkyl optionally substituted with -OH;
                         and -C(O)-C<sub>1-4</sub> alkyl optionally substituted with -OH;
        and wherein R47, R48, R48, R49, R49 are independently hydrogen or C1-4 alkyl,
        optionally substituted with -OH;
E<sup>2</sup> is selected from the group consisting of E<sup>4</sup>, -C(O)-E<sup>4</sup>, -O-E<sup>4</sup> and -N(R<sup>50</sup>)-E<sup>4</sup>,
        wherein E4 is phenyl or heterocycle containing up to 4 heteroatoms, which are the
        same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O2)-,
        -N=, -N(O)= and -N(R<sup>51</sup>)-; wherein E⁴ is optionally substituted with one or
        independently from each other more of
                fluoro;
                chloro;
                cyano;
                ≂O, where the ring is at least partially saturated;
                -N(R<sup>52</sup>R<sup>53</sup>);
                C<sub>1-4</sub> alkyl; or
                -O-C1-4 alkyl;
        and wherein R<sup>5D</sup>, R<sup>52</sup>, R<sup>53</sup> are independently hydrogen or C<sub>1-4</sub> alkyl, optionally
substituted with -OH;
        and wherein R<sup>51</sup> is selected from the group consisting of
                hydrogen;
                C1-4 alkyl, optionally substituted with -OH; and
                -C(O)-C<sub>1-4</sub> alkyl, optionally substituted with -OH;
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 E^3 is selected from the group consisting of C_{1-6} alkyl, -O- C_{1-6} alkyl, -N(R^{54})- C_{1-6} alkyl, wherein E^3 is optionally substituted with one or independently from each other more of

fluoro; -N(R⁵⁵R⁵⁶);

and/or E³ is optionally interrupted with one or more oxygen; and wherein R⁵⁴, R⁵⁵, R⁵⁶ are independently hydrogen or C₁₋₄alkyl, optionally substituted with -OH;

 E^5 is phenyl or heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(R⁵⁷)-; wherein E^5 is optionally substituted with one or independently from each other more of

fluoro;

chloro;

cyano;

=O, where the ring is at least partially saturated;

-N(R⁵⁸R⁵⁹);

C₁₋₄ álkyl or

-0-C14 alkyi;

and wherein R⁵⁷ is independently selected from the group consisting of hydrogen;

C₁₋₄ alkyl, optionally substituted with -OH; and

-C(O)-C₁₋₄ alkyl, optionally substituted with -OH; and wherein R⁵⁸, R⁵⁹ are independently hydrogen or C₁₋₄ alkyl, optionally substituted with -OH.

3. A compound of Formula (I)

$$A \xrightarrow{B} N \xrightarrow{X} G \xrightarrow{N} D \xrightarrow{E} (I)$$

or a pharmaceutically acceptable salt thereof, wherein:

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R<sup>1</sup> is
       hydrogen;
        CN;
        halogén; or.
        C<sub>1-4</sub> alkyl, optionally substituted with one or more fluoro;
R<sup>2</sup> is
        hydrogen;
        CN;
        halogen;
        C<sub>1-8</sub> alkyl, optionally substituted with one or more fluoro;
        C3-6 cycloalkyl; or
        O-C<sub>1-4</sub> alkyl;
R<sup>3</sup> is
        hydrogen;
        C<sub>1-4</sub> alkyl; or
        C3-6 cycloalkyl;
        A<sup>1</sup>, wherein A<sup>1</sup> is selected from the group consisting of:
A is
        naphthyl;
        heterocycle containing up to 4 heteroatoms, which are the same or different and
                selected from the group consisting of -S(O)-, -S(O2)- and -N(O)=; and
        heterobicycles containing up to 6 heteroatoms, which are the same or different
                and selected from the group consisting of -O-, -S-, -S(O)-, -S(O<sub>2</sub>)-, -N=,
                -N(O) = and -N(R^4)-;
                wherein A1 is optionally substituted with one or independently from each other ...
                 more of
                ·A<sup>2</sup>;
                A3:
                halogen;
                'CN; . . .
                --N(R5R6);.
                ·-OH; . . ·
                =O, where the ring is at least partially saturated;
                .C<sub>3-6</sub> cycloalkyl;
                -COORT; or
```

-CONR®R9:

-\$(Ö)2NR88R88

and wherein R⁴, R⁵, R⁶ are independently selected from the group consisting of R^{7a}, -C(O)-R^{7a}, -C(O)O-R^{7a}, -C(O)NR^{7a}R^{7b}, -S(O)₂NR^{7a}R^{7b}, and S(O)₂-R^{7a}; and wherein R⁷, R^{7a}, R^{7b}, R⁸, R^{8a}, R⁹, R^{9a} are independently hydrogen or C₁₋₄ alkyl,

Optionally R4 is a bond to directly attach A to B,

A² is selected from the group consisting of A⁴, -O-A⁴ and -N(R¹⁰)-A⁴,

wherein A^4 is phenyl or a heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(R¹¹)-; wherein A^4 is optionally substituted with one or independently from each other more of

fluoro;

chloro;

-N(R12R13)

C₁₋₄ alkyl or -O-C₁₋₄ alkyl, both optionally substituted with one or independently from each other more of fluoro or -N(R¹⁴R¹⁵);

and wherein R¹⁰, R¹², R¹³, R¹⁴, R¹⁵ are independently hydrogen or C₁₋₄ alkyl; and wherein R¹¹ is selected from the group consisting of hydrogen, C₁₋₄ alkyl.

and -C(O)-C₁₋₄ alkyl;

 A^3 is selected from the group consisting of C_{1-6} alkyl, -O- C_{1-6} alkyl and -N(R^{16})- C_{1-8} alkyl, wherein the C_{1-6} alkyl group is optionally substituted with one or independently from each other more of

fluoro;

-N(R17R18);

·Δ⁵,

and/or A³ is optionally interrupted with one or more oxygen;.

and wherein R¹⁶, R¹⁷, R¹⁸ are independently hydrogen or C₁₋₄alkyl;

```
A^5 is phenyl or a heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O<sub>2</sub>)-, -N=, -N(O)= and -N(R<sup>19</sup>)-; wherein A^5 is optionally substituted with one or independently from each other more of
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fluoro;
        chloro;
        -N(R^{20}R^{21})
        C1-4 alkyl or -O-C1-4 alkyl, both optionally substituted with one or independently from
        each other more of fluoro or -N(R<sup>22</sup>R<sup>23</sup>);
       and wherein R19 is selected from the group consisting of hydrogen, C14 alkyl
        and -C(O)-C1-4 alkyl;
        and wherein R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup>, R<sup>23</sup> are independently hydrogen or C<sub>1-4</sub> alkyl;
        selected from the group consisting of -Y-Z-; -Y-Z-C(O)-; -Y-Z-O-C(O)-;
B is
        -Y-Z-S(O)2-; and -Y-Z-NH-C(O)- wherein
                Y is a bond, -O-, -S-, -N(R24)-, -N(R25)-C(O)-, -C(O)-N(R26)-, or -C(O)-;
                 Z is C<sub>1-8</sub> alkyl,
                          optionally interrupted with oxygen, sulfur or -N(R27)-
                          and/or optionally substituted with one or independently from each other
                           more of ·
                                    halogen;
                                    CN;
                                   C<sub>3-6</sub> cycloalkyl;
                                    -COOR<sup>28</sup>;
                                    -CON(R29R30)
                           and/or optionally one chain carbon forms part of a C3-8 cycloalkyl;
                 and wherein R<sup>24</sup>, R<sup>25</sup>, R<sup>26</sup>, R<sup>27</sup>, R<sup>28</sup>, R<sup>29</sup>, R<sup>30</sup> are independently
                         hydrogen, or
                           C<sub>1-4</sub> alkyl, optionally substituted with -COOR<sup>31</sup> or -CON(R<sup>32</sup>R<sup>33</sup>)
                                  wherein R<sup>31</sup>, R<sup>32</sup>, R<sup>33</sup> are independently hydrogen or
                                   'C1-4 alkyl;
```

X is $=C(R^{34})$ - or =N-, wherein R^{34} is

hydrogen;

C₁₋₆ alkyl, optionally substituted with one or more fluoro; or -S(O)₂R³⁵, wherein R³⁵ is selected from the group consisting of X¹, C₁₋₈ alkyl,

and -C₁₋₆ alkyl-X¹; wherein R³⁵ is optionally substituted with one or independently from each other more of fluoro; chloro; C₁₋₄ alkyl; or -O-C₁₋₄ alkyl;

 X^1 is phenyl or neterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(R³⁶)-; and wherein R³⁶ is selected from the group consisting of hydrogen, C₁₋₄ alkyl and -C(O)-C₁₋₄ alkyl;

G is -CH(R³⁷)-C(R³⁸R³⁹)-;
-CH(R³⁷)-C(R³⁸R³⁹)-C(R⁴⁰R⁴¹)-;
wherein R³⁷, R³⁸, R³⁹, R⁴⁰, R⁴¹ are independently
hydrogen;
C₁₋₄ alkyl, optionally substituted with one or more fluoro;
C₃₋₆ cycloalkyl, optionally substituted with one or more fluoro;
or R³⁸ and R³⁹ or R⁴⁰ and R⁴¹ form together C₃₋₆ cycloalkyl, optionally
substituted with one or more fluoro, -OH, C₁₋₄ alkyl;
or R³⁷ and R³⁸ or R³⁸ and R⁴⁰ form together C₃₋₆ cycloalkyl, optionally
substituted with one or more fluoro, -OH, C₁₋₄ alkyl;

- D is C₁₋₆ alkyl, optionally interrupted with oxygen, sulfur or -N(R⁴²)-and/or optionally substituted with halogen, CN, C₃₋₆ cycloalkyl; and/or optionally one chain carbon or two vicinal carbons form part of a C₃₋₆ cycloalkyl, wherein R⁴² is selected from the group consisting of hydrogen, C₁₋₄ alkyl, C₃₋₆ caycloalkyl and -C(O)-C₁₋₄ alkyl;
- E is E¹, wherein E¹ is selected from the group consisting of phenyl;
 naphthyl;
 heterocycle containing up to 4 heteroatoms, which are the same or different and

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selected from the group consisting of -O-, -S-, -S(O)-, -S(O2)-, -N=, -N(O)= and
              ·-N(R<sup>43</sup>)-; and
       heterobicycle containing up to 6 heteroatoms, which are the same or different
               and selected from the group consisting of -O-, -S-, -S(O)-, -S(O2)-, -N=,
               -N(O) = and -N(R^{44})-;
       wherein E1 is optionally substituted with one or independently from each other more
     of Ė<sup>2</sup>;
               halogen;
               CN;
               -N(R45R46);
               -OH:
               =O, where the ring is at least partially saturated;
               Cae cycloalkyl;
               .-COOR47; or
               -CONR 48 R49;
               -S(O)2NR48aR49a
      and wherein R<sup>43</sup>, R<sup>44</sup>, R<sup>45</sup>, R<sup>46</sup> are independently selected from the group consisting of
               hydrogen;
                      C<sub>1-4</sub> alkyl optionally substituted with -OH;
                       and -C(O)-C1-4 alkyl optionally substituted with -OH;
       and wherein R47, R48, R48, R49, R49a are independently hydrogen or C1-4 alkyl,
      optionally substituted with -OH;
E<sup>2</sup> is selected from the group consisting of E<sup>4</sup>, -C(O)-E<sup>4</sup>, -O-E<sup>4</sup> and -N(R<sup>50</sup>)-E<sup>4</sup>,
      wherein E4 is phenyl or heterocycle containing up to 4 heteroatoms, which are the
      same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O<sub>2</sub>)-,
       -N=, -N(O)= and -N(R^{51})-; wherein E^4 is optionally substituted with one or
       independently from each other more of
               fluoro,
               chloro;
               :cyano; ·
               =O; where the ring is at least partially saturated;
               -N(R<sup>52</sup>R<sup>53</sup>);
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WO 2005/040137 PCT/EP2004/011409

C1-4 alkyl; or

-O-C14 alkyl;

and wherein R⁵⁰, R⁵³ are independently hydrogen or C₁₋₄ alkyl, optionally substituted with -OH;

...and wherein R⁵¹ is selected from the group consisting of

hydrogen;

C1-4 alkyl, optionally substituted with -OH; and

-C(O)-C₁₋₄ alkyl, optionally substituted with -OH;

selected from the group consisting of C1-6 alkyl, -O-C1-6 alkyl; -N(R⁵⁴)-C_{1:6} alkyl, wherein E³ is optionally substituted with one or independently from each other more of

fluoro;

-N(R⁵⁵R⁵⁶);

E⁵:

and/or E³ is optionally interrupted with one or more oxygen;

and wherein R⁵⁴, R⁵⁵, R⁵⁵ are independently hydrogen or C₁₋₄alkyl, optionally · substituted with -OH;

E⁵ is phenyl or heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(R⁵⁷)-; wherein E⁵ is optionally substituted with one or independently from each other more of

fluoro; .

chloro;

· cyano; ...

=O; where the ring is at least partially saturated;

-N(R⁵⁸R⁵⁹);

C₁₋₄ alkyl or -O-C₁₋₄ alkyl,

and wherein R⁵⁷ is independently selected from the group consisting of hydrogen;

C1.4 alkyl, optionally substituted with -OH; and

'-C(O)-C₁₋₄ alkyl, optionally substituted with -OH;

and wherein R⁵⁸, R⁵⁹ are independently hydrogen or C₁₋₄ alkyl, optionally substituted with -OH.

- 4. A compound according to any of the preceding claims, wherein R¹ is hydrogen.
- 5. A compound according to any of the preceding claims, wherein R² is hydrogen, chloro, -CH₃, -CH₂-CH₃, -CH₃
- 6. A compound according to any one of the preceding claims, wherein R³ is hydrogen.
- 7. A compound according to any one of the preceding claims, wherein A^1 is phenyl or heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(R⁴)-, wherein R⁴ has the meaning as indicated in claim 1.
- 8. A compound according to claim 7, wherein A¹ is selected from the group consisting of phenyl, pyridine, pyridine-N oxide, piperidine, morpholine, and pyrrolidine.
- 9. A compound according to any of the preceding claims, wherein R⁴ is a bond, -COOC₁₋₄ alkyl, methyl, ethyl, 2-hydroxyethyl, -COOH, -CH₂-COOH, -CH₂-COO-C₁₋₄ alkyl or cyclopropylmethyl and wherein A¹ is optionally substituted with up to 4 F.
- 10. A compound according to any one of the preceding claims, wherein B is -Y-Z-.
- 11. A compound according to any one of the preceding claims, wherein Y is a bond, -O-, -NH-, -S(O)_z- or-C(O)-.
- 12. A compound according to any one of the preceding claims, wherein Z is -C(R⁶⁰R⁶¹)-or-C(R⁶⁰R⁶¹)-C(R⁶²R⁶³)-, wherein

R⁵⁰, R⁶¹, R⁶², R⁶³ are independently hydrogen, -C(O)NH₂, -COOH, -CH₂-COOH, -CH₂-CO

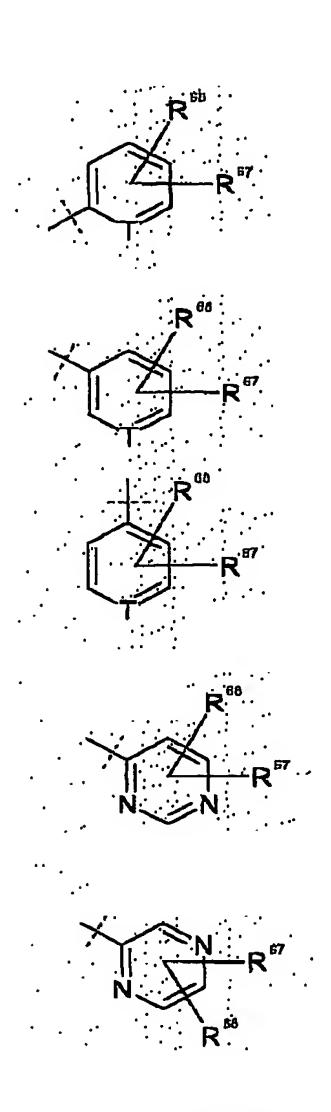
R⁶⁰ and R⁶¹ form a cyclopropyl ring or

R⁶² and R⁶³ form a cyclopropyl ring or

. . . R⁶⁰ and R⁶² form a cyclopropyl or cyclobutyl ring.

13. A compound according to claim 12, wherein R⁶⁰, R⁶¹, R⁶², R⁶³ are independently hydrogen, fluoro or -C(O)NH₂.

- 14. A compound according to any one of the preceding claims, wherein X is =N-,
- 15. A compound according to any of the preceding claims, wherein G is -CH(R⁶⁴)-C(R⁶⁵R⁶⁶)-; wherein R⁶⁴, R⁶⁵, R⁶⁵ are independently hydrogen, F, methyl, -CH₂F, -CHF₂, CF₃ or cyclopropyl or R⁶⁵, R⁶⁶ form together cyclopropyl.
- 16. a compound according to any one of the preceding claims, wherein G is -CH₂-CH₂-.
- 17. A compound according to any one of the preceding claims, wherein D is -CH₂-, -CF₂-, -CH(CH₃)-, -C(CH₃)₂- or D¹-D², where D¹ and D² are independently -CH₂-, -CF₂-, -CH(CH₃)- or -C(CH₃)₂- and wherein D² is optionally -CH₂-NH-.
- 18. A compound according to claim 17, wherein D is -CH₂-, -CH(CH₃)-, -CH₂-CH₂-, -CH₂-C
- 19. A compound according to any one of the preceding claims, wherein -E is selected from the group consisting of phenyl; heterocycle containing up to three heteroatoms, which are the same or different and selected from the group consisting of -O-, -N=, -N(O)- and -NH-; and heterobicycle containing up to three heteroatoms, which are the same or different and selected from the group consisting of -O-, -N=, and -NH-; and wherein E is optionally substituted with up to two substituents which are the same or different and selected from the group consisting of CN. F, Cl, C₁₋₄ alkyl, OH, O-C₁₋₄ alkyl, NH₂, NH-C₁₋₄ alkyl, N(C₁₋₄ alkyl)₂, C(O)NH₂, C(O)NH₂-C₁₋₄ alkyl, and C(O)N(C₁₋₄ alkyl)₂, wherein each C₁₋₄ alkyl is optionally substituted with one or more substituents independently selected from OH and F.
- 20. A compound according to claim 19, wherein -E is phenyl, pyridine, benzimidazole, indazole, quinoline, isoquinoline, pyridine-(N)-oxide, benzothiophene, indole, azaindole, benzoturan, benzisoxazole, benzoxazole, benzothiazole.
- 21. A compound according to any one of the preceding claims, wherein -E is selected from the group consisting of



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T and V are independently =CH-, =CR71-, =N- or =N(O)-;

U is -NH-, -NR⁷²-, -O-, or -S-, wherein

R⁶⁷, R⁶⁸, R⁶⁹, R⁷⁰, R⁷¹ are independently selected from the group consisting of

hydrogen;

C₃₋₆ cycloalkyl;

E⁶;

halogen;

·CN;

-N(R⁷³R⁷⁴);

-OH; and

-COOR⁷⁵ or -C(O)NR⁷⁶R⁷⁷; and wherein R⁷², R⁷³, R⁷⁴, R⁷⁵, R⁷⁶, R⁷⁷ are independently hydrogen; C₁₋₄ alkyl; or -C(O)-C₁₋₄ alkyl;

 E^6 is selected from the group consisting of C_{1-6} alkyl; -O- C_{1-6} alkyl; and -N(R^{76})- C_{1-6} alkyl, wherein the C_{1-6} alkyl group is optionally substituted with one or more of

halogen;

· CN

-N(R⁷⁹R⁸⁰);

phenyl, optionally substituted with chloro;

heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of -O-, -S-, -S(O)-, -S(O₂)-, -N=, -N(O)= and -N(\mathbb{R}^{81})-, optionally substituted with chloro;

and/or E⁸ is optionally interrupted by one or more of oxygen; and wherein R⁷⁸, R⁷⁹, R⁸⁰, R⁸¹ are independently hydrogen, C₁₄aikyl;

 E^7 is selected from the group consisting of E^8 ; $-O-E^8$; $-N(R^{82})-E^8$; and $-C(O)-E^8$, wherein E^8 is phenyl or heterocycle containing up to 4 heteroatoms, which are the same or different and selected from the group consisting of $-O_-$, $-S_-$, $-S(O)_-$, $-S(O_2)_-$, -N=, -N(O)= and $-N(R^{83})_-$; and wherein E^8 is optionally substituted with chloro or $-N(R^{84}R^{85})$;

and wherein R⁸², R⁸³, R⁸⁴, R⁸⁵ are independently hydrogen or C₁₋₄ alkyl.

- 22. A compound according to claim 21, wherein R⁶⁷, R⁶⁸, R⁶⁹, R⁷⁰, R⁷¹ are independently selected from the group consisting of hydrogen, fluoro, chloro, cyano, phenyl, chlorophenyl, methoxy, amino, monomethyl amino, dimethyl amino, pyrrolyl, diazolyl, triazolyl, and tetrazolyl.
- 23. A compound selected from the group consisting of.

- 24. A prodrug of a compound according to any one of the claims 1 to 23.
- 25. A pharmaceutical composition comprising a compound or a mixture of compounds or a pharmaceutically acceptable salt thereof according to any one of the claims 1 to 23 together with a pharmaceutically acceptable carrier.
- 26. A pharmaceutical composition comprising a prodrug according to claim 24 or a mixture of prodrugs or prodrugs and compounds according to any one of the claims 1 to 23 or a pharmaceutically acceptable salt together with a pharmaceutically acceptable carrier.
- 27. A pharmaceutical composition according to claim 25 or 26, additionally comprising one or more known anticoagulants.
- 28. A compound or a pharmaceutically acceptable salt of any one of the claims 1 to 23 for use as a medicament.
- 29. A prodrug or a pharmaceutically acceptable salt of claim 24 for use as a medicament.
- 30. Use of a compound or a pharmaceutically acceptable salt of any of the claims 1 to 23 for the manufacture of a medicament for the treatment or prophylaxis of thromboembolism, thrombosis, artherosclerosis, unstable angina, refractory angina, myocardial infarction, transient ischemic attacks, atrial fibrillation, thrombotic stroke, embolic stroke, deep yein

thrombosis, disseminated intravascular coagulation, ocular build up of fibrin, and reocclusion or restenosis of recanalized vessels.

- 31. Use of a prodrug or a pharmaceutically acceptable salt of claim 24 for the manufacture of a medicament for the treatment or prophylaxis of thromboembolism, thrombosis, artherosclerosis, unstable angina, refractory angina, myocardial infarction, transient ischemic attacks, atrial fibrillation, thrombotic stroke, embolic stroke, deep vein thrombosis, disseminated intravascular coagulation, ocular build up of fibrin, and reocclusion or restenosis of recanalized vessels.
- 32. Use of a compound according to any one of the claims 1 to 23 or a prodrug according to claim 24 as an anticoagulant or thrombin inhibitor.

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